December 2013

CP200 Series Commercial / Industrial Pressure-Loaded Pressure Reducing Regulator

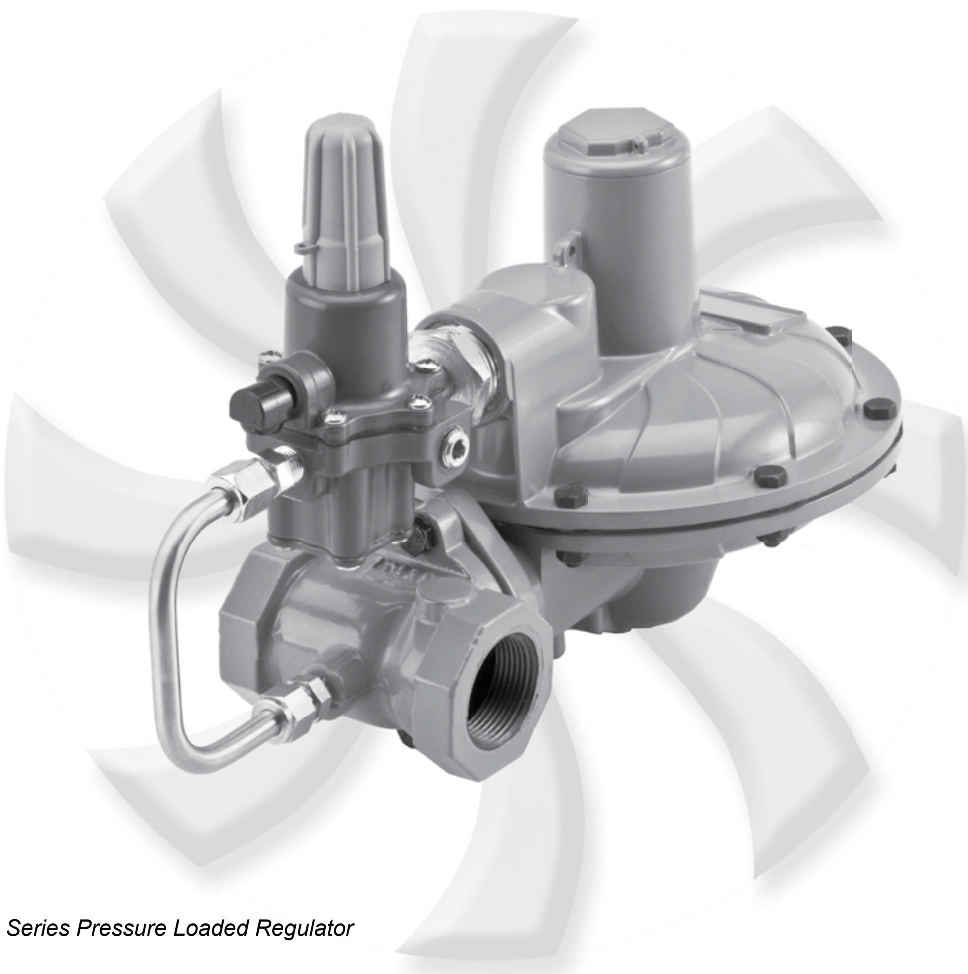


Figure 1. CP200 Series Pressure Loaded Regulator

Features and Benefits

- **Wide Range of NPT Body Sizes**
- **Easy to Install and Maintain**
- **Highly Configurable**
- **Secondary Seat™ Protection**
- **Only Standard Tools Required for Pressure Adjustment and Orifice Removal**
- **Fixed Factor / Pressure Factor Measurement (PFM) Accuracy Capabilities**

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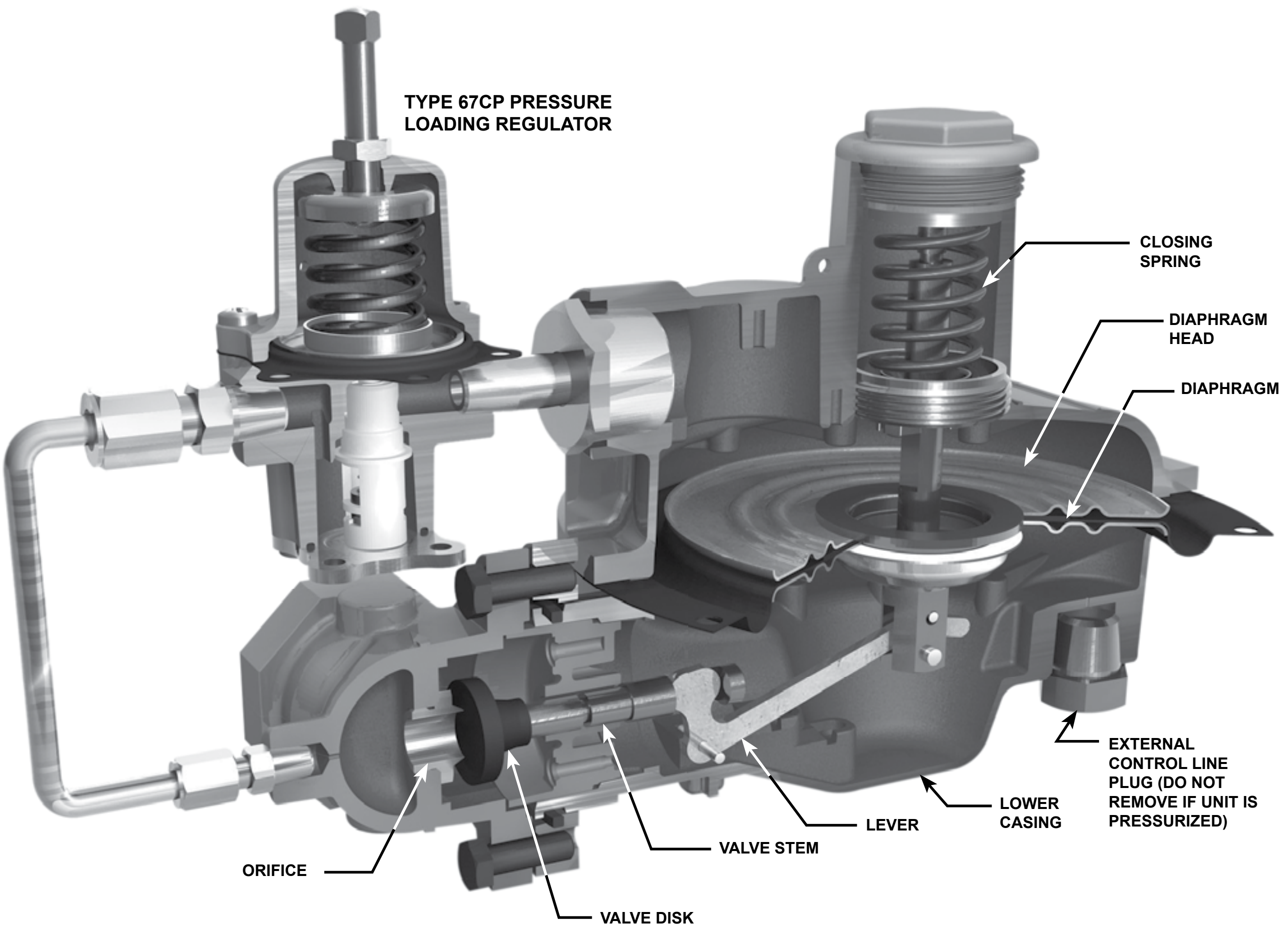


***Figure 2**. Typical CP200 Series Cut-away View*

Introduction

The CP200 Series pressure loaded regulators have been engineered to fit a multitude of pressure reducing applications including commercial and industrial installations. The CP200 Series provides accurate control for use in pressure factor measurement (fixed factor billing) applications. This flexibility is provided by the various body end connection sizes, outlet pressure settings, and orifice sizes.

Overpressure Protection Options Available:

- **Token Relief—**Provides a small capacity or token relief located in the Type 67CPR pressure loading regulator that relieves minor overpressure caused by thermal expansion or minor nicks in the orifice or disk.
- **Secondary Seat™ Protection—**Provides lockup via a secondary seating and disk surface in the event that damage to the primary disk or orifice seating surface, or debris in the flow path, inhibit primary lockup. Secondary Seat protection does not provide additional overpressure protection in the event the secondary seat or disk is damaged by debris or contamination in the pipeline or from conditions that would cause the regulator to go wide open. See page 6 for additional information.

Specifications

The Specifications section lists the specifications for the CP200 Series Regulators. The following information is stamped on the nameplate of CP200 Series: Type Number, Maximum Outlet Pressure, and Spring Range.

Available Configurations
See Table 1

Body Sizes, Material, End Connections, and Pressure Rating(1)
See Table 2

Inlet Pressure Ratings(1)
See Table 3

Maximum Outlet Pressures(1)

Emergency Casing: 25 psig / 1.7 bar

Operating: 20 psig / 1.4 bar

Outlet Pressure Range
1 to 20 psig / 69 mbar to 1.4 bar
See Table 4

Flow Capacities
See Tables 6 through 23

Flow Coefficients and Orifice Sizes
See Table 3

IEC Sizing Coefficients
See Table 3

Temperature Capabilities(1)(2)
-20 to 150°F / -29 to 66°C

Pressure Registration
Internal

Pressure Loading Regulator Spring Case Connection
1/4 NPT

Factory Setpoint Inlet Pressures for Various Orifice Sizes

1/8 inch / 3.1 mm: 80 psig / 5.5 bar
3/16 inch / 4.7 mm: 60 psig / 4.1 bar
1/4 inch / 6.4 mm: 40 psig / 2.8 bar
5/16 inch / 7.9 mm: 30 psig / 2.1 bar
3/8 inch / 9.5 mm: 25 psig / 1.7 bar
1/2 inch / 13 mm: 25 psig / 1.7 bar

Token Relief Performance

Approximate Token Relief Start-to-Discharge:
See Table 5

Approximate Weight
10 pounds / 5 kg

Construction Materials

Type CP200IN Main Valve and Actuator
Body: Gray Cast Iron
Body O-ring: Nitrile (NBR)
Closing Cap: Aluminum
Adjusting Screw: Aluminum
Diaphragm Case, Spring Case, and Valve Stem: Aluminum
Diaphragm Plate: Steel
Orifice: Aluminum
Pusher Post: Aluminum
Diaphragm and Disk: Nitrile (NBR)
Closing Spring: Stainless steel
Relief Valve Spring: Stainless steel
Relief Valve Spring Retainer: Zinc-plated steel
Relief Valve Seat: Aluminum
Lever: Zinc-plated steel
Lever Pin: Stainless steel
Spring Seat: Aluminum

67CP Series Pressure Loading Regulator
Spring: Stainless steel
Body: Aluminum
O-ring and Soft Seat: Nitrile (NBR)
Valve Stem: Aluminum
Valve Plug: Nitrile (NBR)
Diaphragm: Nitrile (NBR)

Designed, Tested, and Evaluated Consistent With:
ASME B16, ASME Section VIII DIV I, ASTM B117 (Corrosion Resistance)

1. The pressure/temperature limits in this Bulletin or any applicable standard limitation should not be exceeded.
2. Product has passed Emerson Process Management Regulator Technologies, Inc. testing for lockup, relief start-to-discharge and reseal down to -40 degrees.

***Table 1**. Available Configurations*

TYPE NUMBER							OPTIONS
C	P	2	0				
							OVERPRESSURE PROTECTION MODULE
				0			Without Overpressure Protection Module
				5			With Secondary Seat™ Protection
				6			With Secondary Seat Protection with bleed to indicate Secondary Seat is functioning
							PRESSURE REGISTRATION
					I		Internal Registration
							RELIEF
						N	Non-Relief
						T	Token Internal Relief

***Table 2**. Body Sizes, Material, End Connection, and Pressure Rating*

TYPE	BODY SIZE	END CONNECTION	BODY MATERIAL	FACE-TO-FACE DIMENSION		PRESSURE RATING	
				Inch	mm	psig	bar
CP200, CP205, and CP206	3/4	NPT	Gray Cast Iron	4	102	175	12.1
	3/4 x 1						
	3/4 x 1-1/4						
	1						
	1 x 1-1/4						
	1-1/4						

***Table 3**. Inlet Pressure Ratings and Flow and Sizing Coeffiecients*

TYPE	ORIFICE SIZE		MAXIMUM OPERATING INLET PRESSURE(1)(2)		FLOW COEFFICIENTS (WIDE-OPEN)		C_1	IEC SIZING COEFFICIENTS		
	Inch	mm	psig	bar	C_g	C_v		X_T	F_D	F_L
CP200	1/8	3.2	125	8.6	12	0.40	30	0.53	0.87	0.89
	3/16	4.8	125	8.6	24	0.80	30	0.58	0.82	
	1/4	6.4	125	8.6	44	1.52	29	0.53	0.85	
	3/8	9.5	60	4.1	102	3.30	31	0.60	0.83	
	1/2	13	40	2.8	172	4.40	39	0.97	0.72	
CP205 and CP206	1/8	3.2	125	8.6	12	0.4	30	0.53	0.87	
	3/16	4.8	125	8.6	24	0.8	30	0.58	0.82	
	1/4	6.4	125	8.6	44	1.52	29	0.53	0.85	
	5/16	7.9	100	6.9	70	2.7	30	0.53	0.85	

1. Inlet pressures based on lockup performance. For maximum inlet pressure values with optimum regulating performance refer to the applicable Flow Capacity table.
2. To comply with ANSI B109.4 relief requirements, the maximum inlet pressure may need to be reduced.

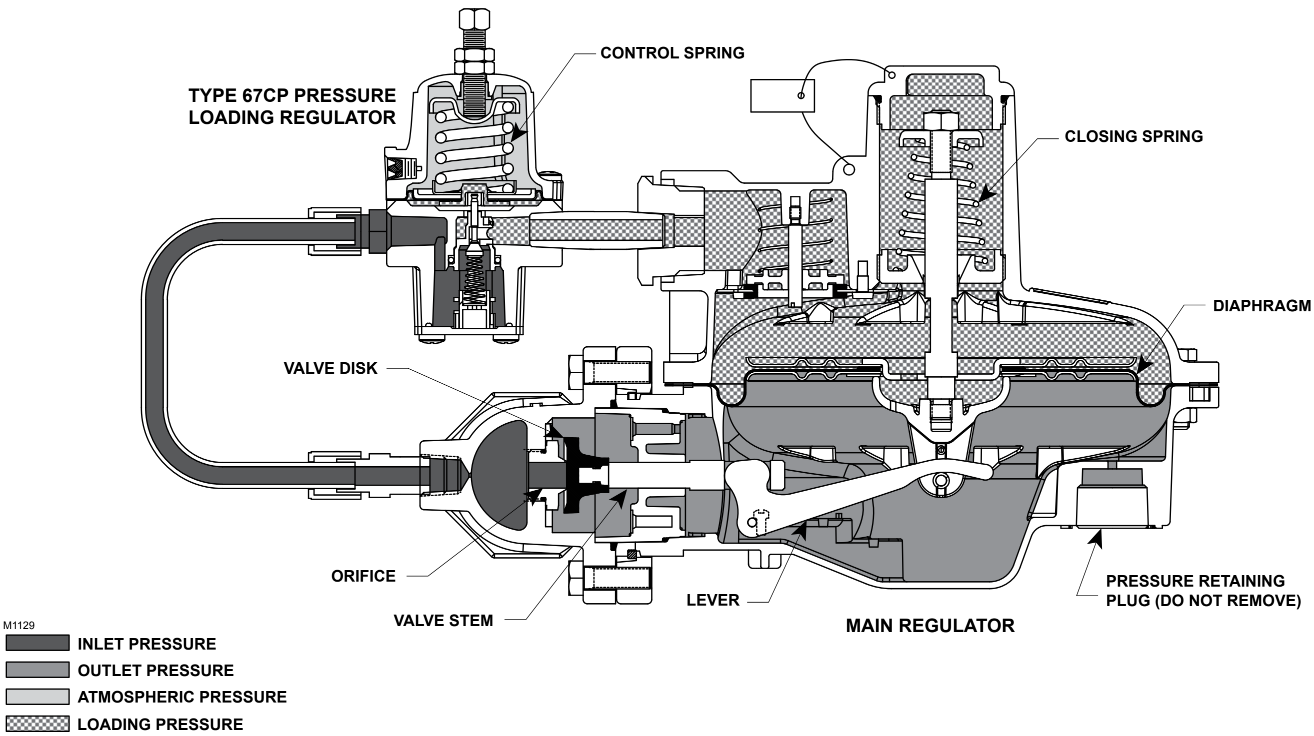


***Figure 3**. Type CP200IN Pressure Loaded Pressure Reducing Regulator with Internal Registration Operational Schematic*

Principle of Operation

Refer to Figure 3. The CP200 Series has spring-to-close construction and uses a 67CP Series pressure loading regulator to supply loading pressure to the top of the main diaphragm. Adjustment to the downstream pressure is therefore made by adjusting the loading pressure regulator. The load pressure supplied by the loading regulator is constant and equal to the desired downstream pressure plus the pressure required to overcome the light closing spring.

Type CP200 Base Regulator

Increasing Downstream Demand

As downstream demand increases the outlet pressure registering on the underside of the main diaphragm decreases and the constant loading pressure above the main diaphragm forces the diaphragm downward. This downward diaphragm motion is transferred through the lever causing the main disk to move away from the orifice seating surface to supply additional flow downstream to the required demand.

Decreasing Downstream Demand

As downstream demand decreases the outlet pressure registering on the underside of the main diaphragm increases forcing the main diaphragm upward. This upward motion is transferred through the lever causing the main disk to move toward the orifice seating surface to reduce flow to meet the required demand.

Zero Downstream Demand (Lockup)

As downstream demand decreases further, the outlet pressure registering under the main diaphragm together with the closing spring act to close the main disk against the orifice seating surface. At this point the loading regulator will continue to supply a small amount of gas downstream that is equal to the capacity of the bleed restriction in the diaphragm assembly. As downstream demand decreases to zero flow outlet pressure rises to meet the lock-up pressure of the loading regulator. This causes the loading regulator to lockup to stop all flow downstream.

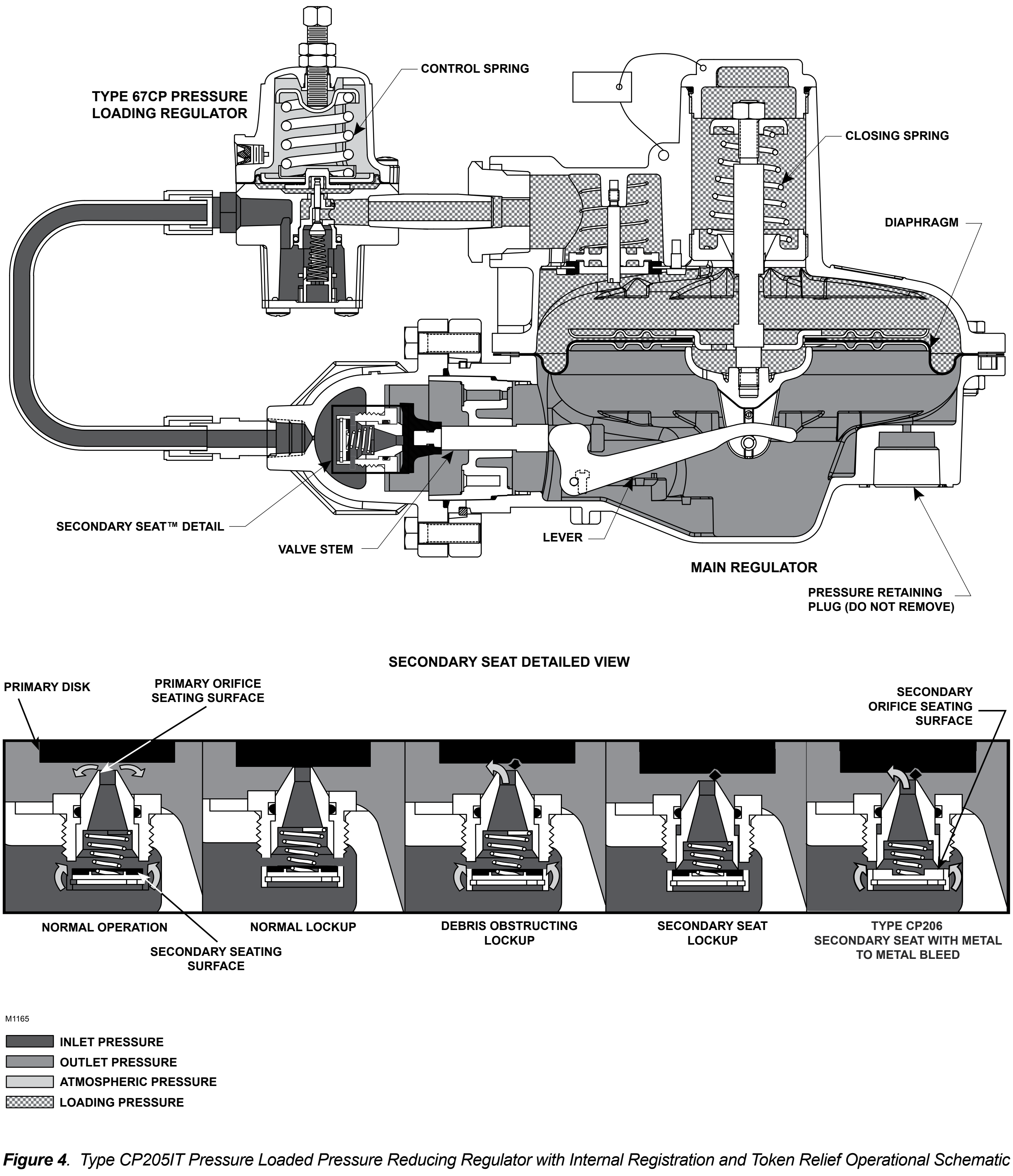


***Figure 4**. Type CP205IT Pressure Loaded Pressure Reducing Regulator with Internal Registration and Token Relief Operational Schematic*

Type CP205 with Secondary Seat™ Protection

Refer to Figure 4. The Type CP205 provides Secondary Seat Protection. As downstream demand decreases and downstream pressure rises to the regulator pressure lock-up value, the regulator will lockup. If, however, damage has occurred to the primary disk, to the primary orifice's seating surface, or debris has become lodged between the primary disk and primary orifice, the outlet pressure will continue to rise. This additional pressure causes the primary disk to apply additional force to the orifice seating surface, which causes the Secondary seating surface to move toward the Secondary disk or sealing surface. If downstream demand decreases to zero, then the secondary seating surface will contact the sealing surface to provide lockup.

Type CP206 with Secondary Seat Protection with Bleed

The Type CP206 provides small bleed to the downstream system as an indication that the Secondary Seat is providing lockup. In the event that the primary orifice and disk cannot provide lockup, the secondary seating surface will move into contact with a metal disk. This metal to metal interface will allow a small amount of gas to bleed downstream thereby increasing outlet pressure until the internal relief valve begins to discharge gas to the atmosphere. The odor of this discharged gas provides an indication that the regulator is relying on the Secondary Seat for overpressure protection.

Types CP205 and CP206 Secondary Seat Protection Limitations

Secondary Seat Protection does not provide additional overpressure protection in the event the secondary seating surface or disk is damaged by debris or contamination in the pipeline or from conditions that would cause the regulator to go wide open. When selecting Secondary Seat Protection option, it is recommended that:

- Other additional overpressure protection methods be added in the downstream system as discussed in the section on Overpressure Protection; and

- An annual downstream lock-up pressure test be done to determine if the Secondary Seat Protection option is operating and functional.

Installation

The CP200 Series regulators may be installed in any position. However, the spring case vent of the Type 67CP loading regulator should be pointed downward. If gas escaping through Type 67CPR pressure loading regulator token internal relief valve could constitute a hazard, the spring case vent must be piped to a location where escaping gas will not be hazardous. If the vented gas will be piped to another location, obstruction-free tubing or piping at least equal to the vent, and the end of the vent pipe must be protected from anything that might clog it.

Overpressure Protection

The CP200 Series is an internally registered pressure reducing regulator and has outlet pressure ratings lower than the inlet pressure ratings. Complete downstream overpressure protection is needed if the actual inlet pressure exceeds the outlet pressure rating.

Token Relief

Types with a "T" in the type number, e.g., Type CP200IT provide an optional small capacity or token relief located in the Type 67CPR to relieve minor overpressure caused by thermal expansion or minor nicks in the orifice or disk. Refer to Table 5 for Start-to-Discharge Pressure Above Setpoint values.

Secondary Seat™ Protection

This overpressure protection provides lockup via a secondary seating and disk surface in the event that damage to the primary disk or orifice seating surface, or debris in the flow path, inhibit primary lockup.

Overpressuring any portion of a regulator or associated equipment may cause personal injury, leakage, or property damage due to bursting of pressure-containing parts or explosion of accumulated gas. Provide appropriate pressure relieving or pressure limiting devices to ensure that the limits in the Specifications section is not exceeded. Regulator operation within ratings does not prevent the possibility of damage from external sources or from debris in the pipeline. Refer to the relief sizing coefficients and the Capacity Information section to determine the required relief valve capacity.

***Table 4**. Outlet Pressure Ranges*

OUTLET PRESSURE RANGE[(1)]		PART NUMBER	SPRING COLOR	SPRING WIRE DIAMETER		SPRING FREE LENGTH	
psig	bar			Inch	mm	Inch	mm
1 to 2	69 mbar to 0.14 bar	GE30199X012	Yellow Stripe	0.078	2.0	1.35	34.3
2 to 5	0.14 to 0.34	GE27213X012	Orange Stripe	0.100	2.5	1.47	37.3
5 to 10	0.34 to 0.69	GE39890X012	Black Stripe	0.114	2.9	1.47	37.3
10 to 20	0.69 to 1.4	GE30200X012	Purple Stripe	0.137	3.5	1.42	36.1

1. Oulet pressure range is controlled by 67CP Series pressure loading regulator spring.

***Table 5**. Token Relief Valve Start-to-Discharge Pressure Above Setpoint*

SPRING RANGE[(1)]		PART NUMBER	SPRING COLOR	START-TO-DISCHARGE PRESSURE RANGE ABOVE SETPOINT	
psig	bar			psig	mbar
1 to 2	69 mbar to 0.14 bar	GE30199X012	Yellow Stripe	1 to 3.5	69 to 241
2 to 5	0.14 to 0.34	GE27213X012	Orange Stripe	1.75 to 5.5	121 to 379
5 to 10	0.34 to 0.69	GE39890X012	Black Stripe	2.5 to 6.75	172 to 465

1. Outlet pressure range is controlled by 67CP Series pressure loading regulator spring. Only the 1 to 2, 2 to 5, and 5 to 10 psig / 0.07 to 0.14; 0.14 to 0.34; and 0.34 to 0.69 bar spring ranges are available with Token Relief.

Capacity Information

Tables 6 through 23 give the CP200 Series natural gas regulating capacities at selected inlet pressures, outlet pressure settings and body outlet sizes. Flows are in SCFH (60°F and 14.7 psia) and Nm^3/h (0°C and 1.01325 bar) of 0.6 specific gravity gas. To determine equivalent capacities for air, propane, butane, or nitrogen, multiply the capacity number in the tables by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane, or 0.789 for nitrogen. For gases of other specific gravities, multiply the given capacity by 0.775 and divide by the square root of the appropriate specific gravity.

The published capacities were obtained using inlet and outlet piping the same size as the regulator body size.

Relief Sizing

For critical flow:

To determine wide-open flow capacities for relief sizing of 0.6 specific gravity natural gas at 60°F at critical pressure drops (absolute outlet pressure equal to approximately one-half or less than one-half of the absolute inlet pressure), use the following formula:

$$Q = P_{1abs}(C_g)(1.29)$$

For subcritical flow:

If pressure drops are lower than critical (absolute outlet pressure greater than approximately one-half the absolute inlet pressure), use the following formula and convert according to the factors in the preceding paragraph if necessary:

$$Q = \sqrt{\frac{520}{GT}}\; C_g P_1 \mathrm{SIN}\left(\frac{3417}{C_1}\sqrt{\frac{\Delta P}{P_1}}\right)\mathrm{DEG}$$

where:

- C_1 = C_g/C_v (see Table 3)
- C_g = Gas sizing coefficient (see Table 3)
- G = Gas specific gravity (air = 1.0)
- P_1 = Regulator inlet pressure, psia
- ΔP = Pressure drop across regulator, psig
- Q = Gas flow rate, SCFH
- T = Absolute temperature of gas at inlet, °Rankine

***Table 6**. CP200 Series Flow Capacities for 1 psig / 69 mbar Setpoint*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
1 psig	-0.16 psi	0.16 psi	1 to 2 psig	GE30199X012 / Yellow Stripe
69 mbar	-11 mbar	11 mbar	69 mbar to 0.14 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		Orifice Size, Inch / mm									
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Sizes: 3/4 and 1 NPT									
3	0.21	160	4.2	310	8.3	460	12.3	850	22.8	1300	34.8
5	0.34	210	5.6	440	11.8	760	20.4	1200	32.2	1500	40.2
10	0.69	320	8.5	730	19.5	1100	29.5	2100	56.3	2100	56.3
15	1.0	410	11.0	890	23.8	1500	40.2	2500	67.1	2500	67.1
20	1.4	490	13.1	1000	26.8	1800	48.3	2800	75.1	2700	72.4
30	2.1	630	16.9	1400	37.5	2400	64.4	3000	80.5	2800	75.1
40	2.8	740	19.8	1700	45.6	2800	75.1	3000	80.5		
50	3.4	920	24.6	2000	53.6	3100	83.2	3100	83.2		
60	4.1	1000	26.8	2300	61.7	3300	88.5	3100	83.2		
80	5.5	1300	34.8	3000	80.5	3300	88.5				
100	6.9	1600	42.9	3100	83.2	3300	88.5				
125	8.6	2000	53.6	3100	83.2	1300	34.8				
psig	bar	Body Size: 1-1/4 NPT									
3	0.21	160	4.2	310	8.3	460	12.3	850	22.8	1400	37.5
5	0.34	210	5.6	440	11.8	800	21.4	1600	42.9	2100	56.3
10	0.69	320	8.5	730	19.5	1300	34.8	2500	67.1	2800	75.1
15	1.0	410	11.0	890	23.8	1600	42.9	3000	80.5	3000	80.5
20	1.4	490	13.1	1000	26.8	1900	51.0	3000	80.5	3000	80.5
30	2.1	630	16.9	1400	37.5	2500	67.1	3000	80.5	3000	80.5
40	2.8	740	19.8	1700	45.6	3000	80.5	3000	80.5		
50	3.4	920	24.6	2000	53.6	3200	85.9	3200	85.9		
60	4.1	1000	26.8	2300	61.7	3200	85.9	3200	85.9		
80	5.5	1300	34.8	3000	80.5	4200	113				
100	6.9	1600	42.9	3300	88.5	4200	113				
125	8.6	2000	53.6	3300	88.5	4200	113				

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.
Shaded areas indicate values that are limited due to boost effects.

Table 7. CP200 Series Flow Capacities for 2 psig / 0.14 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
2 psig	-0.17 psi	0.17 psi	1 to 2 psig	GE30199X012 / Yellow Stripe
0.14 bar	-12 mbar	12 mbar	69 mbar to 0.14 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		Orifice Size, Inch / mm									
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Sizes: 3/4 and 1 NPT									
5	0.34	190	5.1	410	11.0	780	20.9	1400	37.5	1900	51.0
10	0.69	330	8.8	580	15.5	1200	32.2	2600	69.7	2900	77.8
15	1.0	420	11.2	770	20.6	1600	42.9	3200	85.9	3200	85.9
20	1.4	500	13.4	1000	26.8	1900	51.0	3200	85.9	3200	85.9
30	2.1	630	16.9	1300	34.8	2500	67.1	3200	85.9	3200	85.9
40	2.8	790	21.2	1600	42.9	3100	83.2	4200	113		
50	3.4	930	24.9	1800	48.3	3700	99.3	4200	113		
60	4.1	1000	26.8	1800	48.3	4200	113	4200	113		
80	5.5	1300	34.8	1800	48.3	4200	113				
100	6.9	1600	42.9	1800	48.3	4200	113				
125	8.6	1800	48.3	1800	48.3						
psig	bar	Body Size: 1-1/4 NPT									
5	0.34	190	5.1	420	11.2	780	20.9	1400	37.5	1900	51.0
10	0.69	330	8.8	580	15.5	1200	32.2	2600	69.7	2900	77.8
15	1.0	420	11.2	770	20.6	1600	42.9	3200	85.9	3200	85.9
20	1.4	500	13.4	1000	26.8	1900	51.0	3200	85.9	3200	85.9
30	2.1	630	16.9	1300	34.8	2500	67.1	3200	85.9	3200	85.9
40	2.8	790	21.2	1600	42.9	3100	83.2	4200	113		
50	3.4	930	24.9	1800	48.3	3700	99.3	4200	113		
60	4.1	1000	26.8	1800	48.3	4200	113	4200	113		
80	5.5	1300	34.8	1800	48.3	4200	113				
100	6.9	1600	42.9	1800	48.3	4200	113				
125	8.6	1800	48.3	1800	48.3						

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

Table 8. CP200 Series Flow Capacities for 5 psig / 0.34 bar Setpoint

	ACCURACY			
SETPOINT	+ / - 1% ABS		SET RANGE	PART NUMBER / COLOR
5 psig	-0.2 psi	0.2 psi	2 to 5 psig	GE27213X012 / Orange Stripe
0.34 bar	-14 mbar	14 mbar	0.14 to 0.34 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		Orifice Size, Inch / mm									
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Sizes: 3/4 and 1 NPT									
10	0.69	270	7.2	560	15.0	960	25.7	2000	53.6	2900	77.8
15	1.0	370	9.9	870	23.3	1500	40.2	3100	83.2	3800	102
20	1.4	470	12.6	1000	26.8	1900	51.0	3900	105	3900	105
30	2.1	620	16.6	1400	37.5	2400	64.4	4300	115	4300	115
40	2.8	770	20.6	1700	45.6	3000	80.5	4300	115		
50	3.4	940	25.2	1900	51.0	3600	96.6	4300	115		
60	4.1	1000	26.8	2000	53.6	4300	115	4300	115		
80	5.5	1300	34.8	2000	53.6	4300	115				
100	6.9	1600	42.9	2000	53.6	4300	115				
125	8.6	2000	53.6	2000	53.6						
psig	bar	Body Size: 1-1/4 NPT									
10	0.69	270	7.2	560	15.0	1000	26.8	2000	53.6	3000	80.5
15	1.0	370	9.9	870	23.3	1500	40.2	3200	85.9	3800	102
20	1.4	470	12.6	1000	26.8	1900	51.0	4000	107	3900	105
30	2.1	620	16.6	1400	37.5	2600	69.7	4300	115	4300	115
40	2.8	770	20.6	1700	45.6	3000	80.5	5300	142		
50	3.4	940	25.2	1900	51.0	3700	99.3	5300	142		
60	4.1	1000	26.8	2000	53.6	4300	115	5300	142		
80	5.5	1300	34.8	2000	53.6	4300	115				
100	6.9	1600	42.9	2000	53.6	4300	115				
125	8.6	2000	53.6	2000	53.6						

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

***Table 9**. CP200 Series Flow Capacities for 10 psig / 0.69 bar Setpoint*

	ACCURACY			
SETPOINT	**+ / - 1% ABS**		**SET RANGE**	**PART NUMBER / COLOR**
10 psig	-0.25 psi	0.25 psi	5 to 10 psig	GE39890X012 / Black Stripe
0.69 bar	-17 mbar	17 mbar	0.34 to 0.69 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		**Orifice Size, Inch / mm**									
		1/8 / 3.2		**3/16 / 4.8**		**1/4 / 6.4**		**3/8 / 9.5**		**1/2 / 13**	
		SCFH	**Nm³/h**	**SCFH**	**Nm³/h**	**SCFH**	**Nm³/h**	**SCFH**	**Nm³/h**	**SCFH**	**Nm³/h**
psig	**bar**	**Body Sizes: 3/4 and 1 NPT**									
15	1.0	260	6.9	580	15.5	1000	26.8	1600	42.9	2500	67.1
20	1.4	410	11.0	880	23.6	1500	40.2	2900	77.8	3100	83.2
30	2.1	590	15.8	1200	32.2	2200	59.0	3800	102	4100	110
40	2.8	760	20.4	1500	40.2	2900	77.8	4200	113		
50	3.4	900	24.1	1900	51.0	3600	96.6	4700	126		
60	4.1	990	26.5	2300	61.7	4000	107	4700	126		
80	5.5	1300	34.8	2900	77.8	5200	139				
100	6.9	1600	42.9	3500	93.9	5200	139				
125	8.6	1900	51.0	4500	121	5200	139				
psig	**bar**	**Body Size: 1-1/4 NPT**									
15	1.0	260	6.9	580	15.5	1000	26.8	2500	67.1	3400	91.2
20	1.4	410	11.0	880	23.6	1700	45.6	3200	85.9	4400	118
30	2.1	590	15.8	1200	32.2	2200	59.0	5000	134	5000	134
40	2.8	760	20.4	1500	40.2	3100	83.2	6100	164		
50	3.4	900	24.1	1900	51.0	3700	99.3	6900	185		
60	4.1	990	26.5	2300	61.7	4300	115	8000	215		
80	5.5	1300	34.8	2900	77.8	5200	139				
100	6.9	1600	42.9	3500	93.9	5200	139				
125	8.6	1900	51.0	4500	121	5200	139				
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.											

__Table 10__. CP200 Series Flow Capacities for 15 psig / 1.0 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
15 psig	-0.3 psi	0.3 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.0 bar	-20 mbar	20 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		Orifice Size, Inch / mm									
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Sizes: 3/4 and 1 NPT									
20	1.4	360	9.6	460	12.3	1200	32.2	2300	61.7	2800	75.1
30	2.1	580	15.5	1200	32.2	2200	59.0	4000	107	4200	113
40	2.8	690	18.5	1600	42.9	2900	77.8	4900	131		
50	3.4	890	23.8	2000	53.6	3500	93.9	5100	137		
60	4.1	1000	26.8	2300	61.7	4000	107	5900	158		
80	5.5	1300	34.8	2900	77.8	5100	137				
100	6.9	1500	40.2	3600	96.6	6200	166				
125	8.6	1800	48.3	4400	118	7500	201				
psig	bar	Body Size: 1-1/4 NPT									
20	1.4	360	9.6	460	12.3	1200	32.2	2700	72.4	4100	110
30	2.1	580	15.5	1200	32.2	2200	59.0	4900	131	6000	161
40	2.8	690	18.5	1600	42.9	2900	77.8	6300	169		
50	3.4	890	23.8	2000	53.6	3500	93.9	7500	201		
60	4.1	1000	26.8	2300	61.7	4000	107	8200	220		
80	5.5	1300	34.8	2900	77.8	5100	137				
100	6.9	1500	40.2	3600	96.6	6200	166				
125	8.6	1800	48.3	4400	118	7500	201				

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

__Table 11__. CP200 Series Flow Capacities for 20 psig / 1.4 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
20 psig	-0.35 psi	0.35 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.4 bar	-24 mbar	24 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS											
Inlet Pressure		Orifice Size, Inch / mm									
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Sizes: 3/4 and 1 NPT									
30	2.1	560	15.0	1100	29.5	1900	51.0	3800	102	4100	110
40	2.8	740	19.8	1600	42.9	2700	72.4	4800	129		
50	3.4	840	22.5	1900	51.0	3300	88.5	5900	158		
60	4.1	1000	26.8	2300	61.7	4000	107	6700	180		
80	5.5	1300	34.8	2900	77.8	5200	139				
100	6.9	1600	42.9	3600	96.6	6300	169				
125	8.6	2000	53.6	4400	118	7700	207				
psig	bar	Body Size: 1-1/4 NPT									
30	2.1	560	15.0	1100	29.5	1900	51.0	4100	110	5600	150
40	2.8	740	19.8	1600	42.9	2700	72.4	6400	172		
50	3.4	840	22.5	1900	51.0	3300	88.5	7300	196		
60	4.1	1000	26.8	2300	61.7	4000	107	8800	236		
80	5.5	1300	34.8	2900	77.8	5200	139				
100	6.9	1600	42.9	3600	96.6	6300	169				
125	8.6	2000	53.6	4400	118	7700	207				

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

Table 12. CP205 and CP206 Series Flow Capacities for 1 psig / 69 mbar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
1 psig	-0.16 psi	0.16 psi	1 to 2 psig	GE30199X012 / Yellow Stripe
69 mbar	-11 mbar	11 mbar	69 mbar to 0.14 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
3	0.21	155	4.2	295	7.9	420	11.3	570	15.3
5	0.34	200	5.4	460	12.3	670	18.0	775	20.8
10	0.69	345	9.2	780	20.9	1100	29.5	1240	33.2
15	1.0	425	11.4	1000	26.8	1390	37.3	1540	41.3
20	1.4	525	14.1	1140	30.6	1610	43.2	1780	47.7
30	2.1	710	19.0	1500	40.2	1860	49.9	1960	52.5
40	2.8	875	23.5	1890	50.7	1980	53.1	1930	51.7
50	3.4	1010	27.1	2010	53.9	1960	52.5	1960	52.5
60	4.1	1180	31.6	2000	53.6	1970	52.8	2040	54.7
80	5.5	1450	38.9	2070	55.5	1990	53.4	2290	61.4
90	6.2	1630	43.7	2210	59.2	2170	58.2	2390	64.1
100	6.9	1810	48.5	1130	30.3	2340	62.7	2440	65.4
125	8.6	1060	28.4	1130	30.3	2670	71.6	2440	65.4
psig	bar	Body Size: 1 NPT							
3	0.21	165	4.4	345	9.2	480	12.9	480	12.9
5	0.34	230	6.2	490	13.1	685	18.4	695	18.6
10	0.69	355	9.5	765	20.5	1020	27.3	1160	31.1
15	1.0	470	12.6	995	26.7	1240	33.2	1360	36.5
20	1.4	560	15.0	1190	31.9	1400	37.5	1520	40.8
30	2.1	735	19.7	1530	41.0	1620	43.4	1740	46.6
40	2.8	905	24.3	1810	48.5	1820	48.8	1800	48.3
50	3.4	1060	28.4	1970	52.8	1980	53.1	1970	52.8
60	4.1	1250	33.5	1990	53.4	2030	54.4	2040	54.7
80	5.5	1580	42.4	2210	59.2	2340	62.7	2720	72.9
90	6.2	1730	46.4	2400	64.3	2510	67.3	2720	72.9
100	6.9	1930	51.7	1290	34.6	2730	73.2	2870	76.9
125	8.6	1400	37.5	1290	34.6	2760	74.0	2870	76.9
psig	bar	Body Size: 1-1/4 NPT							
3	0.21	175	4.7	280	7.5	395	10.6	460	12.3
5	0.34	185	5.0	435	11.7	585	15.7	720	19.3
10	0.69	355	9.5	720	19.3	875	23.5	1120	30.0
15	1.0	390	10.5	1010	27.1	1190	31.9	1310	35.1
20	1.4	520	13.9	1180	31.6	1440	38.6	1370	36.7
30	2.1	725	19.4	1420	38.1	1440	38.6	1460	39.1
40	2.8	810	21.7	1840	49.3	1570	42.1	1720	46.1
50	3.4	955	25.6	1850	49.6	1570	42.1	1730	46.4
60	4.1	965	25.9	1950	52.3	1640	44.0	1830	49.1
80	5.5	1370	36.7	2000	53.6	2020	54.2	2240	60.1
90	6.2	1610	43.2	2000	53.6	2130	57.1	2430	65.1
100	6.9	1720	46.1	1400	37.5	2270	60.9	2720	72.9
125	8.6	1750	46.9	1400	37.5	2690	72.1	3040	81.5
Shaded areas indicate values that are limited due to boost effects.									

Table 13. CP205 and CP206 Series Flow Capacities for 2 psig / 0.14 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
2 psig	-0.17 psi	0.17 psi	1 to 2 psig	GE30199X012 / Yellow Stripe
0.14 bar	-12 mbar	12 mbar	69 mbar to 0.14 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		18 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
5	0.34	180	4.8	390	10.5	570	15.3	715	19.2
10	0.69	290	7.8	750	20.1	1070	28.7	1220	32.7
15	1.0	430	11.5	945	25.3	1420	38.1	1500	40.2
20	1.4	525	14.1	1120	30.0	1680	45.0	1860	49.9
30	2.1	670	18.0	1560	41.8	2010	53.9	2090	56.0
40	2.8	820	22.0	1900	50.9	2140	57.4	2110	56.6
50	3.4	950	25.5	2080	55.8	2140	57.4	2190	58.7
60	4.1	1130	30.3	2240	60.1	2270	60.9	2290	61.4
80	5.5	1470	39.4	2320	62.2	2290	61.4	2330	62.5
90	6.2	1630	43.7	2310	61.9	2320	62.2	2410	64.6
100	6.9	1730	46.4	1280	34.3	2420	64.9	2530	67.8
125	8.6	2070	55.5	1280	34.3	2690	72.1	2730	73.2
psig	bar	Body Size: 1 NPT							
5	0.34	160	4.3	380	10.2	540	14.5	545	14.6
10	0.69	355	9.5	765	20.5	900	24.1	985	26.4
15	1.0	475	12.7	985	26.4	1360	36.5	1350	36.2
20	1.4	555	14.9	1150	30.8	1450	38.9	1510	40.5
30	2.1	730	19.6	1490	39.9	1820	48.8	1720	46.1
40	2.8	905	24.3	1850	49.6	1810	48.5	1880	50.4
50	3.4	1050	28.2	1920	51.5	2010	53.9	2010	53.9
60	4.1	1210	32.4	2090	56.0	2100	56.3	2160	57.9
80	5.5	1460	39.1	2290	61.4	2530	67.8	2560	68.6
90	6.2	1710	45.8	2400	64.3	2660	71.3	2740	73.5
100	6.9	1940	52.0	2220	59.5	2860	76.7	2860	76.7
125	8.6	2320	62.2	2020	54.2	2860	76.7	2970	79.6
psig	bar	Body Size: 1-1/4 NPT							
5	0.34	135	3.6	275	7.4	485	13.0	570	15.3
10	0.69	270	7.2	595	16.0	1030	27.6	1200	32.2
15	1.0	355	9.5	945	25.3	1400	37.5	1980	53.1
20	1.4	420	11.3	1090	29.2	1930	51.7	2560	68.6
30	2.1	610	16.4	1570	42.1	2670	71.6	3580	96.0
40	2.8	820	22.0	1930	51.7	3370	90.3	4590	123
50	3.4	980	26.3	2270	60.9	4040	108	5500	147
60	4.1	1160	31.1	2680	71.8	4750	127	6400	172
80	5.5	1490	39.9	3430	92.0	3220	86.3	7830	210
90	6.2	1600	42.9	3850	103	3070	82.3	2620	70.2
100	6.9	1820	48.8	4230	113	3070	82.3	2620	70.2
125	8.6	2270	60.9	2130	57.1	3070	82.3	2620	70.2
Shaded areas indicate values that are limited due to boost effects.									

Table 14. CP205 and CP206 Series Flow Capacities for 5 psig / 0.34 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
5 psig	-0.2 psi	0.2 psi	2 to 5 psig	GE27213X012 / Orange Stripe
0.34 bar	-14 mbar	14 mbar	0.14 to 0.34 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
10	0.69	230	6.2	535	14.3	855	22.9	870	23.3
15	1.0	405	10.9	890	23.9	1390	37.3	1620	43.4
20	1.4	525	14.1	990	26.5	1680	45.0	1860	49.9
30	2.1	705	18.9	1530	41.0	2380	63.8	2590	69.4
40	2.8	870	23.3	1960	52.5	2640	70.8	2660	71.3
50	3.4	1010	27.1	2200	59.0	2810	75.3	2880	77.2
60	4.1	1180	31.6	2520	67.6	2810	75.3	2880	77.2
80	5.5	1510	40.5	2940	78.8	2810	75.3	2880	77.2
90	6.2	1700	45.6	2950	79.1	2810	75.3	2880	77.2
100	6.9	1860	49.9	2970	79.6	2810	75.3	2880	77.2
125	8.6	2280	61.1	1590	42.6	2810	75.3	2880	77.2
psig	bar	Body Size: 1 NPT							
10	0.69	320	8.6	630	16.9	750	20.1	915	24.5
15	1.0	405	10.9	930	24.9	1360	36.5	1400	37.5
20	1.4	550	14.7	1170	31.4	1650	44.2	1790	48.0
30	2.1	725	19.4	1550	41.6	2090	56.0	2060	55.2
40	2.8	905	24.3	1900	50.9	2240	60.1	2090	56.0
50	3.4	1050	28.2	2020	54.2	2330	62.5	2440	65.4
60	4.1	1230	33.0	2520	67.6	2470	66.2	2490	66.8
80	5.5	1530	41.0	2800	75.1	2940	78.8	2730	73.2
90	6.2	1690	45.3	2800	75.1	3190	85.5	2910	78.0
100	6.9	1840	49.3	2740	73.5	3340	89.5	2990	80.2
125	8.6	2240	60.1	1770	47.5	3820	102	3420	91.7
psig	bar	Body Size: 1-1/4 NPT							
10	0.69	215	5.8	440	11.8	845	22.7	930	24.9
15	1.0	350	9.4	835	22.4	1340	35.9	1540	41.3
20	1.4	465	12.5	1100	29.5	1780	47.7	2380	63.8
30	2.1	675	18.1	1510	40.5	2650	71.0	3400	91.2
40	2.8	740	19.8	1860	49.9	3360	90.1	4640	124
50	3.4	930	24.9	2180	58.4	4090	110	5580	150
60	4.1	1150	30.8	2150	57.6	4640	124	3130	83.9
80	5.5	1400	37.5	2470	66.2	4150	111	2620	70.2
90	6.2	1570	42.1	2540	68.1	3640	97.6	2620	70.2
100	6.9	1730	46.4	2560	68.6	3120	83.6	2620	70.2
125	8.6	2030	54.4	1780	47.7	2990	80.2	1360	36.5

Shaded areas indicate values that are limited due to boost effects.

Table 15. *CP205 and CP206 Series Flow Capacities for 10 psig / 0.69 bar Setpoint*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
10 psig	-0.25 psi	0.25 psi	5 to 10 psig	GE39890X012 / Black Stripe
0.69 bar	-17 mbar	17 mbar	0.34 to 0.69 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
15	1.0	270	7.2	730	19.6	1030	27.6	1180	31.6
20	1.4	415	11.1	995	26.7	1500	40.2	1660	44.5
30	2.1	515	13.8	1530	41.0	2190	58.7	2530	67.8
40	2.8	765	20.5	1860	49.9	2900	77.7	2860	76.7
50	3.4	915	24.5	2230	59.8	3050	81.8	3130	83.9
60	4.1	1120	30.0	2360	63.3	3280	87.9	3290	88.2
80	5.5	1460	39.1	2920	78.3	3330	89.3	3490	93.6
90	6.2	1610	43.2	3570	95.7	3520	94.4	3490	93.6
100	6.9	1620	43.4	3710	99.5	3370	90.3	3490	93.6
125	8.6	2050	55.0	3870	104	3370	90.3	3490	93.6
psig	bar	Body Size: 1 NPT							
15	1.0	215	5.8	660	17.7	1050	28.2	870	23.3
20	1.4	370	9.9	830	22.3	1490	39.9	1790	48.0
30	2.1	600	16.1	1310	35.1	2000	53.6	2470	66.2
40	2.8	775	20.8	1740	46.6	2420	64.9	2770	74.3
50	3.4	965	25.9	2140	57.4	2590	69.4	2920	78.3
60	4.1	1110	29.8	2530	67.8	2800	75.1	2920	78.3
80	5.5	1430	38.3	3020	81.0	3150	84.5	3400	91.2
90	6.2	1610	43.2	3520	94.4	3510	94.1	3590	96.2
100	6.9	1750	46.9	3590	96.2	3800	110	4060	109
125	8.6	2240	60.1	3700	99.2	3940	106	4330	116
psig	bar	Body Size: 1-1/4 NPT							
15	1.0	260	7.0	625	16.8	1150	30.8	1170	31.4
20	1.4	380	10.2	1000	26.8	1590	42.6	1700	45.6
30	2.1	635	17.0	1280	34.3	2210	59.2	2610	70.0
40	2.8	800	21.4	1690	45.3	2700	72.4	3290	88.2
50	3.4	935	25.1	2250	60.3	3390	90.9	3840	103
60	4.1	1070	28.7	2490	66.8	3850	103	3890	104
80	5.5	1480	39.7	3220	86.3	4180	112	4750	127
90	6.2	1630	43.7	3370	90.3	4780	128	5000	134
100	6.9	1700	45.6	4090	110	5400	145	5000	134
125	8.6	2210	59.2	4420	118	5400	145	5000	134
Shaded areas indicate values that are limited due to boost effects.									

Table 16. CP205 and CP206 Series Flow Capacities for 15 psig / 1.0 bar Setpoint

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
15 psig	-0.3 psi	0.3 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.0 bar	-20 mbar	20 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
20	1.4	355	9.5	775	20.8	1280	34.3	1380	37.0
30	2.1	680	18.2	1330	35.7	1970	52.8	2640	70.8
40	2.8	725	19.4	1920	51.5	2610	70.0	3200	85.8
50	3.4	1010	27.1	2260	60.6	3530	94.6	3830	103
60	4.1	1230	33.0	2570	68.9	3870	104	3930	105
80	5.5	1480	39.7	3290	88.2	4410	118	4990	134
90	6.2	1660	44.5	3690	98.9	4800	129	5070	136
100	6.9	1820	48.8	4040	108	4800	129	5200	139
125	8.6	2390	64.1	4600	123	4800	129	5200	139
psig	bar	Body Size: 1 NPT							
20	1.4	290	7.8	660	17.7	1280	34.3	1490	39.9
30	2.1	655	17.6	1590	42.6	2160	57.9	2610	70.0
40	2.8	790	21.2	2000	53.6	2910	78.0	3140	84.2
50	3.4	1070	28.7	2370	63.5	3260	87.4	3450	92.5
60	4.1	1170	31.4	2600	69.7	3680	98.7	3700	99.2
80	5.5	1320	35.4	3480	93.3	4050	109	4010	107
90	6.2	1640	44.0	3690	98.9	4080	109	4010	107
100	6.9	1790	48.0	3990	107	4440	119	4130	111
125	8.6	2300	61.7	4520	121	4470	120	5250	141
psig	bar	Body Size: 1-1/4 NPT							
20	1.4	190	5.1	580	15.5	1010	27.1	930	24.9
30	2.1	465	12.5	1300	34.9	2200	59.0	2720	72.9
40	2.8	730	19.6	1770	47.5	3160	84.7	4050	109
50	3.4	870	23.3	1930	51.7	3740	100	5050	135
60	4.1	1050	28.2	2620	70.2	4380	117	5860	157
80	5.5	1220	32.7	3250	87.1	5980	160	7980	214
90	6.2	1650	44.2	3500	93.8	6610	177	8540	229
100	6.9	1710	45.8	3810	102	7220	194	9730	261
125	8.6	2210	59.2	5100	137	4030	108	7370	198
Shaded areas indicate values that are limited due to boost effects.									

Table 17. *CP205 and CP206 Series Flow Capacities for 20 psig / 1.4 bar Setpoint*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
20 psig	-0.35 psi	0.35 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.4 bar	-24 mbar	24 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		1/8 / 3.2		3/16 / 4.8		1/4 / 6.4		5/16 / 7.9	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
30	2.1	550	14.7	1240	33.2	1890	50.7	2080	55.8
40	2.8	795	21.3	1540	41.3	2730	73.2	3160	84.7
50	3.4	935	25.1	2160	57.9	3610	96.8	3710	99.5
60	4.1	1080	29.0	2530	67.8	4180	112	4050	109
80	5.5	1460	39.1	3240	86.9	4750	127	4820	129
90	6.2	1580	42.4	3670	98.4	5300	142	4870	131
100	6.9	1770	47.5	3950	106	5500	147	5130	137
125	8.6	2260	60.6	4710	126	5650	151	5190	139
psig	bar	Body Size: 1 NPT							
30	2.1	570	15.3	1380	37.0	1920	51.5	2190	58.7
40	2.8	835	22.4	1900	50.9	2700	72.4	3140	84.2
50	3.4	1030	27.6	2340	62.7	3340	89.5	3990	107
60	4.1	1230	33.0	2590	69.4	3500	93.8	4130	111
80	5.5	1560	41.8	3390	90.9	4140	111	4290	115
90	6.2	1700	45.6	3710	99.5	4340	116	4640	124
100	6.9	1890	50.7	4120	110	4520	121	5030	135
125	8.6	2250	60.3	4770	128	4850	130	5710	153
psig	bar	Body Size: 1-1/4 NPT							
30	2.1	515	13.8	1030	27.6	1810	48.5	2360	63.3
40	2.8	795	21.3	1660	44.5	2850	76.4	3700	99.2
50	3.4	925	24.8	1750	46.9	4020	108	4960	133
60	4.1	1160	31.1	2470	66.2	4510	121	6120	164
80	5.5	1380	37.0	3310	88.7	5770	155	7870	211
90	6.2	1650	44.2	3660	98.1	6580	176	9070	243
100	6.9	1790	48.0	4020	108	7220	194	9860	264
125	8.6	2270	60.9	5110	137	8610	231	9860	264

Table 18. CP200 Series Internal Registration Flow Capacities for 2 psig / 0.14 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
2 psig	-0.17 psi	0.17 psi	1 to 2 psig	GE30199X012 / Yellow Stripe
0.14 bar	-12 mbar	12 mbar	0.07 to 0.14 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
10	0.69	580	15.5	1100	29.5	2000	53.6	2900	77.7
15	1.0	770	20.6	1500	40.2	2500	67.0	3200	85.8
20	1.4	970	26.0	1800	48.2	2800	75.0	3200	85.8
25	1.7	1100	29.5	2100	56.3	3000	80.4	3200	85.8
30	2.1	1300	34.8	2300	61.6	3100	83.1	3200	85.8
40	2.8	1600	42.9	2900	77.7	3100	83.1		
50	3.4	1800	48.2	3300	88.4	3100	83.1		
60	4.1	1800	48.2	3400	91.1	2600	69.7		
80	5.5	1800	48.2	3500	93.8				
100	6.9	1800	48.2						
125	8.6								
psig	bar	Body Size: 1 NPT							
10	0.69	580	15.5	1200	32.2	1800	48.2	2500	67.0
15	1.0	770	20.6	1500	40.2	2800	75.0	3200	85.8
20	1.4	1000	26.8	1900	50.9	2900	77.7	3200	85.8
25	1.7	1200	32.2	2200	59.0	3200	85.8	3200	85.8
30	2.1	1300	34.8	2500	67.0	3200	85.8	3200	85.8
40	2.8	1600	42.9	3100	83.1	4200	113		
50	3.4	1800	48.2	3700	99.2	4200	113		
60	4.1	1800	48.2	3900	105	4200	113		
80	5.5	1800	48.2	3900	105				
100	6.9			3900	105				
125	8.6								
psig	bar	Body Size: 1-1/4 NPT							
10	0.69	580	15.5	1100	29.5	2400	64.3	2900	77.7
15	1.0	770	20.6	1600	42.9	3200	85.8	3200	85.8
20	1.4	1000	26.8	1900	50.9	3200	85.8	3200	85.8
25	1.7	1200	32.2	2200	59.0	3200	85.8	3200	85.8
30	2.1	1300	34.8	2400	64.3	3200	85.8	3200	85.8
40	2.8	1600	42.9	3000	80.4	4200	113		
50	3.4	1800	48.2	3700	99.2	4200	113		
60	4.1	1800	48.2	4200	113	4200	113		
80	5.5	1800	48.2						
100	6.9								
125	8.6								

Shaded areas indicate values that are limited due to boost effects.
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

***Table 19**. CP200 Series Internal Registration Flow Capacities for 5 psig / 0.34 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
5 psig	-0.20 psi	0.20 psi	2 to 5 psig	GE27213X012 / Orange Stripe
0.34 bar	-14 mbar	14 mbar	0.14 to 0.34 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	**bar**	**Body Size: 3/4 NPT**							
10	0.69	560	15.0	960	25.7	2000	53.6	2900	77.7
15	1.0	840	22.5	1500	40.2	3100	83.1	3800	102
20	1.4	1000	26.8	1900	50.9	3900	105	3900	105
25	1.7	1200	32.2	2300	61.6	4300	115	4300	115
30	2.1	1300	34.8	2400	64.3	4300	115	4300	115
40	2.8	1600	42.9	3000	80.4	4300	115		
50	3.4	1900	50.9	3500	93.8	4300	115		
60	4.1	2000	53.6	3500	93.8	4300	115		
80	5.5	2000	53.6	4100	110				
100	6.9	2000	53.6	3400	91.1				
125	8.6	2000	53.6						
psig	**bar**	**Body Size: 1 NPT**							
10	0.69	560	15.0	940	25.2	1300	34.8	1800	48.2
15	1.0	830	22.2	1500	40.2	2900	77.7	3600	96.5
20	1.4	980	26.3	1900	50.9	3900	105	3900	105
25	1.7	1200	32.2	2300	61.6	3900	105	4300	115
30	2.1	1200	32.2	2400	64.3	4300	115	4300	115
40	2.8	1600	42.9	3000	80.4	4300	115		
50	3.4	1900	50.9	3600	96.5	4300	115		
60	4.1	2000	53.6	4300	115	4300	115		
80	5.5	2000	53.6	4300	115				
100	6.9	2000	53.6						
125	8.6								
psig	**bar**	**Body Size: 1-1/4 NPT**							
10	0.69	560	15.0	440	11.8	2000	53.6	3000	80.4
15	1.0	830	22.2	1400	37.5	3200	85.8	3800	102
20	1.4	1000	26.8	1700	45.6	4000	107	3900	105
25	1.7	1200	32.2	1900	50.9	4600	123	4300	115
30	2.1	1300	34.8	2400	64.3	4300	115	4300	115
40	2.8	1700	45.6	2800	75.0	5200	139		
50	3.4	1900	50.9	3400	91.1	5000	134		
60	4.1	2000	53.6	3900	105	3900	105		
80	5.5	2000	53.6	4000	107				
100	6.9	2000	53.6						
125	8.6	2000	53.6						

Shaded areas indicate values that are limited due to boost effects.
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

***Table 20**. CP200 Series Internal Registration Flow Capacities for 7 psig / 0.48 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
7 psig	-0.22 psi	0.22 psi	5 to 10 psig	GE39890X012 / Black Stripe
0.48 bar	-15 mbar	15 mbar	0.34 to 0.69 bar	

CAPACITIES IN SCFH / Nm^3/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm^3/h	SCFH	Nm^3/h	SCFH	Nm^3/h	SCFH	Nm^3/h
psig	**bar**	**Body Size: 3/4 NPT**							
10	0.69	140	3.8						
15	1.0	740	19.8	1100	29.5	1900	50.9	1900	50.9
20	1.4	1000	26.8	1700	45.6	2900	77.7	2700	72.4
25	1.7	1100	29.5	2100	56.3	3300	88.4	3500	93.8
30	2.1	1300	34.8	2300	61.6	3700	99.2	3600	96.5
40	2.8	1600	42.9	2900	77.7	4200	113		
50	3.4	1900	50.9	3400	91.1	4500	121		
60	4.1	2200	59.0	3700	99.2	4600	123		
80	5.5	2900	77.7	4000	107				
100	6.9	3400	91.1	3200	85.8				
125	8.6	3900	105						
psig	**bar**	**Body Size: 1 NPT**							
10	0.69	240	6.4	600	16.1			650	17.4
15	1.0	580	15.5	1500	40.2	2100	56.3	3200	85.8
20	1.4	970	26.0	1900	50.9	3500	93.8	4700	126
25	1.7	1100	29.5	2300	61.6	4200	113	4800	129
30	2.1	1300	34.8	2600	69.7	5000	134	5500	147
40	2.8	1600	42.9	3200	85.8	6100	163		
50	3.4	2000	53.6	3800	102	6700	180		
60	4.1	2200	59.0	4400	118	7700	206		
80	5.5	2900	77.7	5400	145				
100	6.9	3200	85.8	6600	177				
125	8.6								
psig	**bar**	**Body Size: 1-1/4 NPT**							
10	0.69	380	10.2						
15	1.0	770	20.6	980	26.3	1900	50.9	2100	56.3
20	1.4	980	26.3	1600	42.9	3400	91.1	4100	110
25	1.7	1100	29.5	2100	56.3	3700	99.2	4600	123
30	2.1	1300	34.8	2300	61.6	3900	105	4600	123
40	2.8	1600	42.9	2900	77.7	4800	129		
50	3.4	2000	53.6	3500	93.8	4000	107		
60	4.1	2300	61.6	3900	105	3500	93.8		
80	5.5	3000	80.4	3900	105				
100	6.9	3500	93.8	3900	105				
125	8.6	4300	115						

Shaded areas indicate values that are limited due to boost effects.
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

***Table 21**. CP200 Series Internal Registration Flow Capacities for 10 psig / 0.69 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
10 psig	-0.25 psi	0.25 psi	5 to 10 psig	GE39890X012 / Black Stripe
0.69 bar	-17 mbar	17 mbar	0.34 to 0.69 bar	

CAPACITIES IN SCFH / Nm^3/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm^3/h	SCFH	Nm^3/h	SCFH	Nm^3/h	SCFH	Nm^3/h
psig	bar	Body Size: 3/4 NPT							
15	1.0	570	15.3	1000	26.8	1100	29.5	1300	34.8
20	1.4	880	23.6	1500	40.2	2800	75.0	3100	83.1
25	1.7	1100	29.5	2200	59.0	3500	93.8	3800	102
30	2.1	1200	32.2	2200	59.0	3800	102	4100	110
40	2.8	1500	40.2	2900	77.7	4200	113		
50	3.4	1900	50.9	3600	96.5	4700	126		
60	4.1	2300	61.6	4000	107	4700	126		
80	5.5	2900	77.7	4100	110				
100	6.9	3500	93.8	4100	110				
125	8.6	4300	115	4100	110				
psig	bar	Body Size: 1 NPT							
15	1.0	580	15.5	1000	26.8	1600	42.9	2200	59.0
20	1.4	880	23.6	1500	40.2	2900	77.7	3100	83.1
25	1.7	1200	32.2	2100	56.3	3800	102	4100	110
30	2.1	1200	32.2	2200	59.0	3800	102	4100	110
40	2.8	1500	40.2	2900	77.7	4200	113		
50	3.4	1900	50.9	3600	96.5	4700	126		
60	4.1	2300	61.6	4000	107	4700	126		
80	5.5	2900	77.7	5200	139				
100	6.9	3500	93.8	5200	139				
125	8.6	4200	113	5200	139				
psig	bar	Body Size: 1-1/4 NPT							
15	1.0	510	13.7	1000	26.8	2100	56.3	2800	75.0
20	1.4	880	23.6	1600	42.9	3200	85.8	4400	118
25	1.7	1100	29.5	2200	59.0	4500	121	5000	134
30	2.1	1200	32.2	2200	59.0	5000	134	5000	134
40	2.8	1500	40.2	3100	83.1	6100	163		
50	3.4	1900	50.9	3700	99.2	6900	185		
60	4.1	2300	61.6	4300	115	7000	188		
80	5.5	2900	77.7	5200	139				
100	6.9	3500	93.8	5200	139				
125	8.6	4100	110	5200	139				
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.									

***Table 22**. CP200 Series Internal Registration Flow Capacities for 15 psig / 1.0 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
15 psig	-0.30 psi	0.30 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.0 bar	-21 mbar	21 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	bar	Body Size: 3/4 NPT							
20	1.4	460	12.3			2070	55.5	1600	42.9
25	1.7	1000	26.8	1100	29.5	3376	90.5	3900	105
30	2.1	1200	32.2	2200	59.0	4000	107	4200	113
40	2.8	1600	42.9	2900	77.7	4870	131		
50	3.4	2000	53.6	3500	93.8	5100	137		
60	4.1	2300	61.6	4000	107	5900	158		
80	5.5	2900	77.7	4800	129				
100	6.9	3500	93.8	4800	129				
125	8.6	4300	115	4800	129				
psig	bar	Body Size: 1 NPT							
20	1.4	460	12.3	490	13.1	1000	26.8	2500	67.0
25	1.7	820	22.0	1900	50.9	3600	96.5	4200	113
30	2.1	1200	32.2	2200	59.0	4000	107	4200	113
40	2.8	1600	42.9	2900	77.7	4900	131		
50	3.4	1700	45.6	3500	93.8	5100	137		
60	4.1	2300	61.6	4000	107	5900	158		
80	5.5	2900	77.7	5100	137				
100	6.9	3500	93.8	6200	166				
125	8.6	4200	113	7500	201				
psig	bar	Body Size: 1-1/4 NPT							
20	1.4	460	12.3			2700	72.4	3600	96.5
25	1.7	870	23.3	1600	42.9	4100	110	5500	147
30	2.1	1200	32.2	2200	59.0	4900	131	6000	161
40	2.8	1600	42.9	2900	77.7	6300	169		
50	3.4	2000	53.6	3500	93.8	7500	201		
60	4.1	2300	61.6	4000	107	8200	220		
80	5.5	2900	77.7	5100	137				
100	6.9	3600	96.5	6200	166				
125	8.6	4300	115	7000	188				
Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.									

***Table 23**. CP200 Series Internal Registration Flow Capacities for 20 psig / 1.4 bar Setpoint with 1% ABS Pressure Factor Accuracy (PFM Approved)*

SETPOINT	ACCURACY + / - 1% ABS		SET RANGE	PART NUMBER / COLOR
20 psig	-0.35 psi	0.35 psi	10 to 20 psig	GE30200X012 / Purple Stripe
1.4 bar	-24 mbar	24 mbar	0.69 to 1.4 bar	

CAPACITIES IN SCFH / Nm³/h OF 0.6 SPECIFIC GRAVITY NATURAL GAS									
Inlet Pressure		Orifice Size, Inch / mm							
		3/16 / 4.8		1/4 / 6.4		3/8 / 9.5		1/2 / 13	
		SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h	SCFH	Nm³/h
psig	**bar**	**Body Size: 3/4 NPT**							
25	1.7			120	3.2	2086	55.9	3038	81.4
30	2.1	1000	26.8	1900	50.9	3800	102	4100	110
40	2.8	1600	42.9	2700	72.4	4800	129		
50	3.4	1900	50.9	3300	88.4	5900	158		
60	4.1	2200	59.0	4000	107	6700	180		
80	5.5	2900	77.7	5100	137				
100	6.9	3600	96.5	6200	166				
125	8.6	4300	115	6400	172				
psig	**bar**	**Body Size: 1 NPT**							
25	1.7	460	12.3	1100	29.5	740	19.8	3000	80.4
30	2.1	1000	26.8	1900	50.9	3800	102	3900	105
40	2.8	1300	34.8	2700	72.4	4800	129		
50	3.4	1800	48.2	3300	88.4	5900	158		
60	4.1	2200	59.0	4000	107	6700	180		
80	5.5	2800	75.0	5200	139				
100	6.9	3300	88.4	6300	169				
125	8.6	4200	113	7700	206				
psig	**bar**	**Body Size: 1-1/4 NPT**							
25	1.7					3100	83.1	4300	115
30	2.1	860	23.0	1900	50.9	4100	110	5600	150
40	2.8	1600	42.9	2700	72.4	6400	172		
50	3.4	1700	45.6	3300	88.4	7300	196		
60	4.1	2300	61.6	3600	96.5	8800	236		
80	5.5	2900	77.7	5000	134				
100	6.9	3400	91.1	6100	163				
125	8.6	4400	118	7200	193				

Blank areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

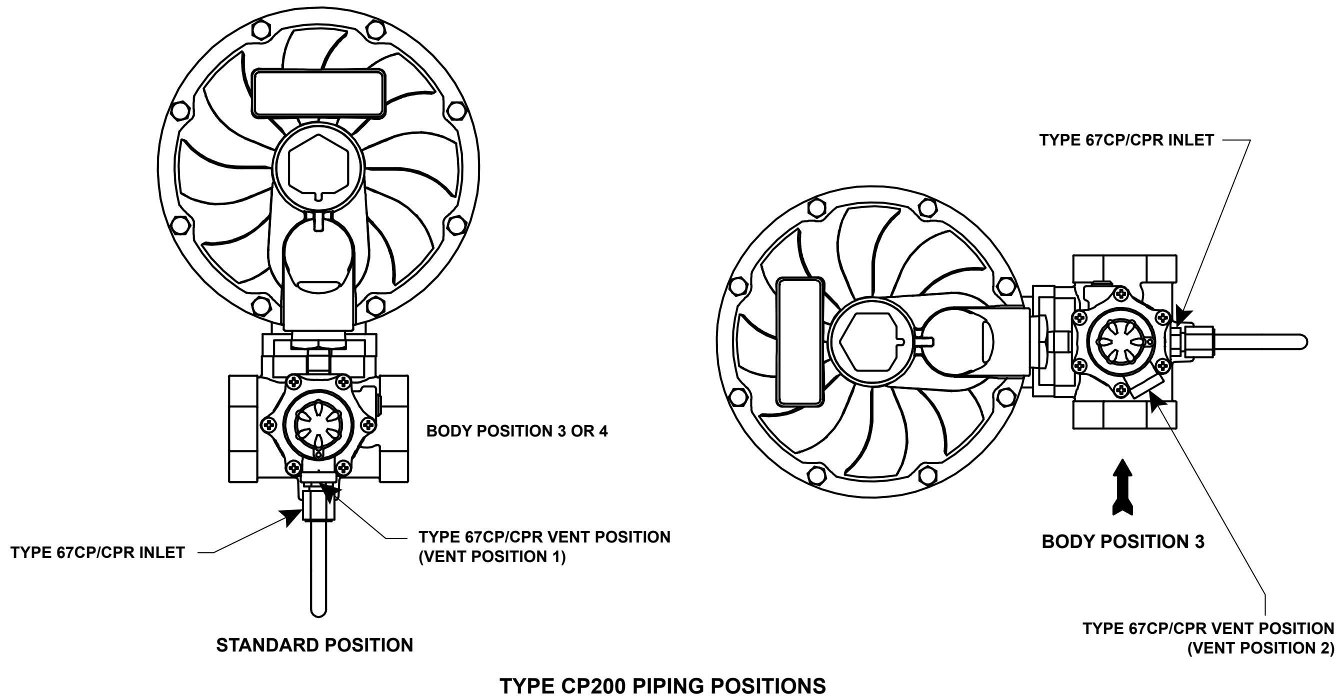


Figure 5. *CP200 Series Vent Position and Body Orientation*

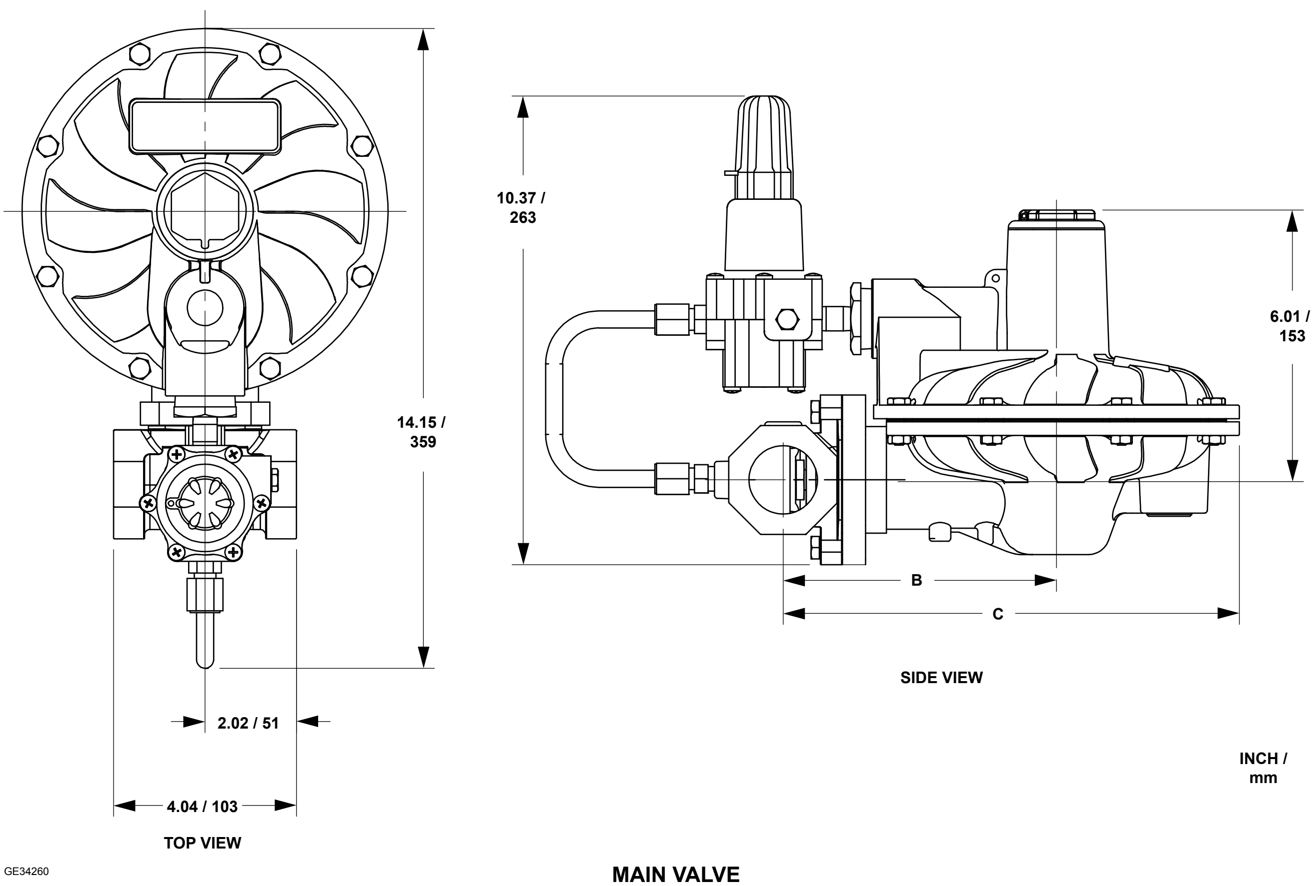


Figure 6. *Dimensions*

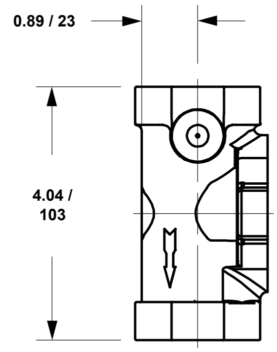


Figure 6. *Dimensions (continued)*

Table 24. *Dimensions*

BODY SIZE		END CONNECTION STYLE	DIMENSIONS, INCH / mm	
Inlet	Outlet		B	C
3/4	3/4	NPT	5.84 / 148	9.89 / 251
3/4	1			
1				
3/4	1-1/4		6.02 / 153	10.1 / 257
1				
1-1/4				

Ordering Guide

Type (Select One)
- ☐ CP200IN (without Token relief)***
- ☐ CP200IT (with Token relief)
- ☐ CP205IN (without Token relief and with Secondary Seat™ Protection)
- ☐ CP205IT (with Token relief and Secondary Seat Protection)
- ☐ CP206IT (with Token relief and Secondary Seat Protection with bleed to indicate Secondary Seat is functioning)

Body Size and End Connection Style (Select One)
- ☐ 3/4 NPT***
- ☐ 3/4 x 1 NPT***
- ☐ 3/4 x 1-1/4 NPT***
- ☐ 1 NPT***
- ☐ 1 x 1-1/4 NPT***
- ☐ 1-1/4 NPT***

Outlet Pressure Range (Select One)
- ☐ 1 to 2 psig / 69 mbar to 0.14 bar, Yellow Stripe***
- ☐ 2 to 5 psig / 0.14 bar to 0.34 bar, Orange Stripe***
- ☐ 5 to 10 psig / 0.34 to 0.69 bar, Black Stripe***
- ☐ 10 to 20 psig / 0.69 to 1.4 bar, Purple Stripe***

Orifice Size (Select One)

Type CP200
- ☐ 1/8-inch / 3.2 mm***
- ☐ 3/16-inch / 4.8 mm***
- ☐ 1/4-inch / 6.4 mm***
- ☐ 3/8-inch / 9.5 mm***
- ☐ 1/2-inch / 13 mm***

Types CP205 and CP206
- ☐ 1/8-inch / 3.2 mm***
- ☐ 3/16-inch / 4.8 mm***
- ☐ 1/4-inch / 6.4 mm***
- ☐ 5/16-inch / 7.9 mm***

Body Orientation (Select One)
- ☐ Position 3 **(standard)*****
- ☐ Position 4***

Vent Orientation of Types 67CP/67CPR and CP200 Series (Select One)
- ☐ Position 1 **(standard)*****
- ☐ Position 2***

Certification (Available only on CP200 Series Construction)
- ☐ Pressure Factor Measurement (PFM)

Specification Worksheet
Application:
Specific Use ____________
Line Size ____________
Gas Type and Specific Gravity ____________
Gas Temperature ____________
Does the Application Require Overpressure Protection?
☐ Yes ☐ No If yes, which is preferred:
☐ Relief Valve ☐ Monitor Regulator ☐ Shutoff Device
Is overpressure protection equipment selection assistance desired? ____________
Pressure:
Maximum Inlet Pressure (P_{1max}) ____________
Minimum Inlet Pressure (P_{1min}) ____________
Downstream Pressure Setting(s) (P_2) ____________
Maximum Flow (Q_{max}) ____________
Performance Required:
Accuracy Requirements? ____________
Need for Fast Response? ____________
Other Requirements: ____________

Regulators Quick Order Guide	
* * *	Readily Available for Shipment
* *	Allow Additional Time for Shipment
*	Special Order, Constructed from Non-Stocked Parts. Consult Your local Sales Office for Availability.
Availability of the product being ordered is determined by the component with the longest shipping time for the requested construction.	

Industrial Regulators

Emerson Process Management
Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75070 USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9000

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611

Middle East and Africa
Dubai, United Arab Emirates
Tel: +011 971 4811 8100

Natural Gas Technologies

Emerson Process Management
Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75070 USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Singapore 128461, Singapore
Tel: +65 6770 8337

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611
Chartres 28008, France
Tel: +33 2 37 33 47 00

Middle East and Africa
Dubai, United Arab Emirates
Tel: +011 971 4811 8100

TESCOM

Emerson Process Management
Tescom Corporation

USA - Headquarters
Elk River, Minnesota 55330-2445, USA
Tels: +1 763 241 3238
+1 800 447 1250

Europe
Selmsdorf 23923, Germany
Tel: +49 38823 31 287

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9499



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